



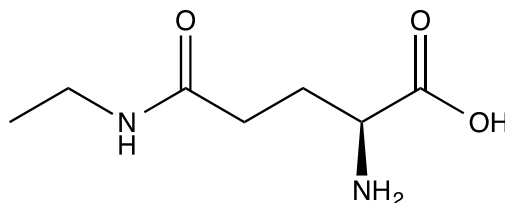
### Catalog # 10-4513

#### L-Theanine

CAS# 3081-61-6

N-Ethyl-L-glutamine

Lot # FBM2144



L-Theanine is a naturally occurring amino acid found in tea leaves. It is able to cross the blood brain barrier and has been shown to have psychoactive effects<sup>1</sup> including cognition improvement, reduction of physical and mental stress responses<sup>2</sup>, anxiety and mood improvement.<sup>3</sup> Various studies conclude that L-Theanine can act in a positive synergistic manner with caffeine to improve cognition and mood.<sup>4,5,6</sup>

- 1) Wakabayashi *et al.* (2012) *Behavioral and molecular evidence for psychotropic affects in L-theanine* Psychopharmacology(Berl) **219** 1099
- 2) Tian *et al.* (2013), *Protective effect of l-theanine on chronic stress-induced cognitive impairments in mice* Brain Res. **1503** 24
- 3) Kakuda (2011) *Neuroprotective effects of theanine and its preventive effects on cognitive dysfunction* **64** 162
- 4) Foxe *et al.* (2012) *Assessing the effects of caffeine and theanine on the maintenance of vigilance during a sustained attention task* Neuropharmacol **62** 2320
- 5) Haskell *et al.* (2008) *The effects of l-theanine, caffeine and their combination on cognition and mood* Biol.Psychol. **77** 113
- 6) Owen *et al.* (2008) *The combined effects of L-theanine and caffeine on cognitive performance and mood* Nutr. Neurosci. **11** 193

#### PHYSICAL DATA

|                        |                                                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Molecular Weight:      | 174.20                                                                                                                                           |
| Molecular Formula:     | C <sub>7</sub> H <sub>14</sub> N <sub>2</sub> O <sub>3</sub>                                                                                     |
| Purity:                | >98%                                                                                                                                             |
| Solubility:            | Water (up to 20 mg/ml)                                                                                                                           |
| Physical Description:  | White solid                                                                                                                                      |
| Storage and Stability: | Store as supplied at room temperature for up to 2 years from the date of purchase. Solutions in water may be stored at -20°C for up to 2 months. |

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